

Docket No. 20236  
Serial No. 10/010,961

11

**REMARKS**

In the Office Action mailed June 16, 2004, Claims 1-26 were pending for consideration. Of these, Claim 9 was rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite, and Claims 1-26 were rejected under 35 U.S.C. § 102 as allegedly anticipated by one or more cited references. Each of these rejections will be addressed in turn below.

By the present amendment, Claims 1, 19, and 23 have been amended. Applicant submits that support for such amendments is found *inter alia* at page 10, lines 10-12 of the originally filed specification. Further, it should be understood that such amendment has been made solely for the purposes of expediting prosecution of the present application, and does not concede the correctness of the rejection. Applicant expressly reserves the right to pursue any canceled or relinquished subject matter in a future application. In view of the present amendment, Claims 1-26 remain pending for consideration in the present application. Reconsideration of all claims in light of the following remarks is respectfully requested.

**Rejections Under 35 U.S.C. 102**

Before discussing the rejection, it is thought proper to briefly state what is required to sustain such a rejection. A rejection under 35 U.S.C. 102 can only be sustained if the statutory anticipation requirements are met. In order to show anticipation of the claimed invention, the Examiner must establish the rejection is under a single prior art reference. Accordingly, "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described." Verdegall Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Thus, if a single prior art reference does not

Docket No. 20236  
Serial No. 10/010,961

12

teach each and every element of a claimed invention, an anticipatory rejection cannot be established. The Applicant respectfully asserts the Examiner has not satisfied the requirements for establishing an anticipatory rejection against the instantly claimed invention under any of the asserted prior art references.

#### The Present Invention

As recited by the pending claims, the present invention is a dressing tool that is specifically designed in order to be suitable for use with a fixed abrasive CMP pad. As discussed in the background section of the specification, a fixed abrasive CMP pad differs from a traditional pad dresser in that it contains poles or protrusions with abrasive particles attached thereto in order to help with polishing. By contrast, conventional pad dressers do not have poles per se, but are more fibrous in nature. Further, unlike a fixed abrasive pad, conventional pads do not have abrasive particles fixed to the pad. Rather, the abrasive particles are dispensed onto the pad as part of a chemical slurry during polishing.

As a result of the polishing with a fixed abrasive pad, debris from the workpiece being polished clogs the spaces between the poles, and the poles can become bent. The act of dressing a pad with a dressing tool is performed in order to clean the debris from between the poles and to bring the poles erect once again.

Since a fixed abrasive pad has the abrasive particles fixed to the poles, it is important that the dresser be able to dress the pad without dislodging the abrasive particles. Further, it is important that the dresser not damage or remove the poles themselves.

It has been discovered that traditional pad dressers are unsuitable for dressing a fixed abrasive pad as the protrusions on the dresser tend to dislodge the abrasive particles from the poles of the pad, and in many cases remove the poles as well.

Docket No. 20236  
Serial No. 10/010,961

13

Accordingly, the pad dresser as recited in claim 1 contains small projections. As defined on pg. 10, ln. 10-15, of the specification, small projections are projections that are of a size that is suitable for properly conditioning or dressing a fixed abrasive pad without substantially damaging or dislodging the poles.

Rejection Under 35 U.S.C. 102(b)

The Examiner has rejected Claims 1-2, 5-7, and 10-16 under 35 U.S.C. 102(b) as allegedly being anticipated by United States Patent No. 6,027,659 to Billett (hereinafter, "Billett"). Billett teaches an apparatus for conditioning traditional CMP polishing pads, where the traditional CMP polishing pads are used in conjunction with an abrasive slurry for chemical-mechanical polishing of integrated circuits and other semiconductor devices. (col. 1, ln. 13-23 and col. 3, ln. 7-20). The apparatus has a substrate with a conditioning surface and protrusions identified as conditioning points or integral points (col. 3, ln. 20-33).

However, Billett does not discuss fixed abrasive CMP pads and fails to teach or suggest that the apparatus can be used for conditioning fixed abrasive CMP pads. Further, Billett does not teach a plurality of small projections which are specifically limited in the claim to those projections of a size that are suitable for dressing a fixed abrasive CMP pad without substantially damaging the pad. The Examiner has suggested that limitations with respect to an "intended workpiece" are not a limitation on the apparatus. See Office Action mailed June 16, 2004, page 2. Applicant respectfully disagrees with this assessment in the present application. Specifically, the height of the small projections of a particular dressing tool will be determined by the height of the poles of a fixed abrasive pad. As explained in the specification, if the small projections are too large, then the poles of the fixed abrasive pad will be damaged or destroyed. Similarly, if the small projections are too small, then the fixed

Docket No. 20236  
Serial No. 10/010,961

14

abrasive pad will be underdressed. The claimed invention requires that the small projections do not damage or destroy poles of the fixed abrasive pad. This is viewed as a real and meaningful limitation on size of the small projections of the claimed apparatus. Billett fails to teach or suggest such a size limitation on the small projections.

As a result, the Billett reference does not disclose each and every element of any of Claims 1-2, 5-7, and 10-16, and therefore fails to anticipate them. Applicants therefore respectfully request withdrawal that the rejection be withdrawn.

Rejection Under 35 U.S.C. 102(e)

The Examiner has rejected claims 1-26 under 35 U.S.C. 102(e) as being allegedly anticipated by United States Patent No. 6,439,986 to Myoung et al. (hereinafter, "Myoung"). Myoung teaches an apparatus for conditioning the same type of traditional CMP polishing pad (abstract) as Billett. The apparatus has a substrate and a plurality of geometrical protrusions of uniform height, which can be made of ceramic or cemented carbide material (abstract). The geometrical protrusions have a height of 200 microns, with a plurality of notches cut into the distal end of thereof. The notches create sub-protrusions with a height of 30 microns. However, the height of the protrusion overall still remains at 200 microns, which would be unsuitable for dressing a fixed abrasive CMP pad.

Myoung does not mention fixed abrasive pads, and does not teach or suggest that the disclosed apparatus can be used for conditioning fixed abrasive CMP pads. Additionally, Myoung does not teach a plurality of small projections having a size which is sufficient to dress fixed abrasive pads without damage thereto as mandated by the present claimed.

Docket No. 20236  
Serial No. 10/010,961

15

As a result, Myoung fails to disclose each and every element of the present Claims 1-26, and does not anticipate them. Applicants therefore respectfully request that the rejection be withdrawn.

Docket No. 20236  
Serial No. 10/010,961

16

**CONCLUSION**

In view of the foregoing, the Applicant believes that Claims 1-26 present allowable subject matter and allowance thereof is respectfully requested. If any impediment to the allowance of these claims remains after consideration of the above remarks, and such impediment could be removed during a telephone interview, the Examiner is invited to telephone Mr. David Osborne at (801) 566-6633, so that such issues may be resolved as expeditiously as possible.

Please charge any additional fees except for Issue Fee or credit any overpayment to Deposit Account No. 20-0100.

Dated this 18<sup>th</sup> day of October, 2004.

Respectfully submitted,



David W. Osborne  
Attorney for Applicant  
Registration No. 44,989

Erik S. Ericksen  
Attorney for Applicant  
Registration No. 48,954

Of:

THORPE NORTH & WESTERN, LLP  
Customer No. 20,551  
8180 South 700 East, Suite 200  
Sandy, Utah 84070  
(801) 566-6633

  
MWW/DWO/ESE